

SEVENTY-SECOND  
ANNUAL REPORT

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MECHANICS'  
INSTITUTE

SAN FRANCISCO  
CALIFORNIA

NINETEEN HUNDRED  
TWENTY-SEVEN





Seventy-second Annual Report  
of the  
MECHANICS' INSTITUTE  
for the  
Year Ending February 28, 1927



## MECHANICS' INSTITUTE OFFICERS

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BOARD OF TRUSTEES  
Year Ending February 28, 1927

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JOHN H. WOOD.....Secretary

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**Mechanics'-Mercantile Library**  
FRANCIS B. GRAVES.....Librarian



## MECHANICS' INSTITUTE

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### Mechanics'-Mercantile Library

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### Mechanics' Institute Chess and Checker Club

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57 Post Street  
San Francisco, California

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The Library now contains over one hundred two thousand volumes. Special attention is given to the division of technology. Over four hundred periodicals and newspapers are on file. A chess and checker room is maintained where smoking is permitted. Lecture courses are held each season. Library open daily, 9:00 A. M. to 10:00 P. M. Sundays and Holidays, 11:00 A. M. to 5:00 P. M. Chess Room, daily, 9:00 A. M. to 10:00 P. M.

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#### TERMS OF MEMBERSHIP.

Entrance Fee.....	\$ 1.00
Half-yearly Dues (in advance).....	3.00
Life Membership.....	100.00

Non-residents may use the Library for one month on payment of fifty cents.

A member may introduce a friend (not a resident of the city) who will be allowed the use of the Library rooms for one month.

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#### LIBRARY RULES.

Members may take out two books at a time and extra books on payment of five cents each.

New fiction may be kept for one week only. Other books may be kept two weeks and the time may be extended for two weeks longer by giving notice at the Library desk, or by mail or telephone (Sutter 360). A charge of two cents a day will be made on books kept over time.

Members' requests for books to be purchased will receive careful consideration.



## PRESIDENT'S REPORT

San Francisco, March 10, 1927.

### *To the Members of the Mechanics' Institute:*

When the members of the Institute meet in December next the seventy-third year of the existence of the Mechanics' Institute will have come to an end. It seems fit to me at this time to bring to your notice the things that have been and are being accomplished by the Institute, and the resultant good thereof to the membership in particular and to the community at large. No other private enterprise has done as much to provide knowledge for the citizens of its community as the Mechanics' Institute. I say, for the citizens of the community because, while it is true that the privileges are for members of the Institute, the method of obtaining membership is so broad, and the cost of it so little, that no one need be without it. No red tape is attached to an application and the fee is less than twenty per cent of the cost of the service actually rendered. It is a source of pleasure to me to be able to record, that because of the keen foresight and the unselfish efforts of its early members, this institution was started on a career that today finds it with an endowment income sufficient to enable it to do so much good.

During the fiscal year just closed the financial affairs of the Institute have prospered and the work it has accomplished has been in keeping with that of previous years. The book circulation has dropped off slightly, the shortage being in the class of fiction. Sociology, religion, science, literature, biography and history, all show marked increase. At this time the library has on its shelves over one hundred two thousand volumes, after deducting for those worn out and otherwise disposed of.

Again your Lecture Committee is to be congratulated upon its choice of lecturers. During the early part of the season Doctor David P. Barrows of the University of California gave a course on "Russia in the Far East," and later Professor Edward Thomas Williams, also of the University of California, began a course entitled "A Struggle for Civilization in China," two lectures of which are yet to be given. The manner in which these lectures have been received and the large attendance they drew is an evidence that the Committee's choice was in accord with the members' desires.

Following a provision of the Constitution, eighteen members

of the Institute who have completed thirty years of continuous subscription membership have been given life memberships.

It is my sad duty to report the death, on May 29, 1926, of Mr. Horace H. Miller, a trustee of the Institute from October 4, 1921, to the date of his death. The Board elected Mr. James Spiers to fill the vacancy, and this election was confirmed by the members at the December, 1926, meeting. Mr. Spiers had previously been a member of the Board, serving from 1904 to October 4, 1921, resigning on the latter date to enter the military service in the World War.

I am pleased to report the gift of some four hundred reports made by the late James Dix Schuyler, consulting hydraulic engineer, covering investigations, recommendations and plans and specifications, on practically all of the engineering projects with which he was connected from 1885 to 1912. The gift is made by Messrs. Philip Schuyler and Karl C. Schuyler, nephews of the author. The collection is a remarkable one and will be of inestimable value to engineers.

At the December, 1926, meeting of the members an amendment to the Constitution, prepared by Mr. D. Duncan, was presented by Mr. John McLaren, under the terms of which employees of the Institute, who have been such for thirty years or more, become entitled to a pension. The amendment has the approval of your Board of Trustees and, in accordance with the provisions of the Constitution, will be presented to you later at this meeting for your action.

In the Secretary's report is shown the financial operations of the Institute. A brief resume of it indicates an increase of over \$2500 in the receipts from the Post Street Building and a decrease of over \$1500 in expenses thereon, making a net increase of over \$4000. The Library receipts from dues show an apparent decrease. This, however, is explained by slower collection, as the membership is approximately the same as that of the previous year. The expenditures for the Library are, as usual, much in excess of its receipts. This, however, is always to be expected for the Library and the Institute's other educational activities are the real reason for its existence. A larger income from its investments taken together with a larger amount of Library expenditures, indicates a greater activity along the lines for which the Mechanics' Institute was founded. By reference to the list of bonds owned by the Institute you will note that the



total thereof is smaller than that of last year by about \$10,000, while the total of the mortgages owned by the Institute has increased by \$60,000, and that there is an addition to the investment account of over \$51,000. By the sale of certain bonds, particularly Liberty Bonds, and the reinvestment of the proceeds in other bonds and mortgages the income from this source has thereby been increased in a considerable amount. I am pleased to add that the liquid assets of the Institute have almost doubled under the present Board of Trustees which you have re-elected for the past ten years.

At the election held on February 23, 1927, the members of the Institute through their votes honored the following trustees by again electing them to office: Messrs. Edward H. Benjamin, Tirey L. Ford, Doctor Joseph D. Hodgen, Byron Mauzy, Doctor Arthur W. Scott, Charles D. Steiger and Otto Von Geldern. I speak for them and for the hold-over members of the Board when I promise you that the same earnest attention to the affairs of the Institute given by them in the past will be continued.

Special mention is due to all of our employes for their loyal and faithful service. Mr. Wood, our Secretary, and Mr. Graves, our Librarian, are especially commended for their great interest in the Institute and Library.

BYRON MAUZY, President.

## SECRETARY'S REPORT

For the Year Ending February 28, 1927.

To the Board of Trustees of the Mechanics' Institute,  
San Francisco.

Gentlemen:—

I have the honor to present herewith financial statement of the Mechanics' Institute for the year ending February 28, 1927:

March 1, 1926, Cash on deposit in various banks .....	\$ 48,125.85
Cash in contingent funds .....	225.00

Total Cash .....	\$ 48,350.85
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### RECEIPTS.

Mechanics' Institute Building—rent collections from March 1, 1926, to February 28, 1927 .....	\$ 68,623.35
Interest, Ernest N. Atkins Memorial Fund..	30.00
Interest, James Lick Fund .....	600.00
Interest, Commercial and Savings Account..	1,466.06
Interest, Mortgage Receivable Accounts....	3,406.45
Interest, Bonds .....	28,113.40
Bond premium received .....	318.75
Library and General Administration:	
Dues .....	\$ 20,466.25
Entrance Fees .....	869.00
Books Paid for .....	116.06
Fines and Extra Books .....	2,768.05
Sundry .....	82.01
	24,301.37
Suspense Account .....	35.00
Received for Investments Accounts:	
From sale of Bonds .....	70,000.00
Total Cash received .....	196,894.38

\$245,245.23

### EXPENDITURES.

Mechanics' Institute Building—operating expenses from March 1, 1926, to February 28, 1927:	
Pay Roll .....	\$ 14,781.87
Taxes .....	8,839.98
Insurance .....	667.81
Heat .....	629.89
Light and Power .....	2,481.06
Water .....	223.64



Window Cleaning .....	420.00	
Supplies .....	756.13	
Repairs .....	930.93	
General Expense .....	268.79	
	<u>30,000.10</u>	
Library and General Administration:		
Books, Binding and Periodicals..\$	13,492.97	
Furniture and Equipment.....	1,734.57	
General Expense .....	2,817.34	
Insurance .....	825.08	
Legal Expense .....	250.00	
Lectures .....	806.99	
Printing and Stationery.....	559.25	
Salaries .....	28,292.52	
Supplies .....	400.40	
Taxes .....	48.26	
Monthly Bulletin .....	205.00	
Rent of Library Rooms.....	18,720.00	
Alterations to Library Rooms..	238.86	
	<u>\$68,391.24</u>	
Bond Premium Paid.....	2,989.66	
Post Street Building—Cost Account.....	1,137.65	
	<u>Total .....</u>	<u>\$102,518.65</u>
Investments Account:		
Bonds Purchased .....	\$ 57,182.50	
Mortgage Loan .....	60,000.00	
	<u>117,182.50</u>	
		<u>\$219,701.15</u>
Cash on hand in various banks, Feb. 28, 1927..\$	25,319.08	
Cash on hand in contingent funds.....	225.00	
	<u>Total Cash .....</u>	<u>25,544.08</u>
		<u>\$245,245.23</u>

## SUMMARY.

Cash on hand, March 1, 1926.....	\$ 48,350.85
Total Receipts .....	\$126,894.38
Total Expense .....	98,391.34
	<u>28,503.04</u>
Excess Receipts .....	28,503.04
Received from sale of Bonds.....	70,000.00
	<u>\$146,853.89</u>

## DISTRIBUTION.

Cash in various banks, February 28, 1927...\$	25,319.08
Cash in contingent funds .....	225.00
	<u>Total Cash .....</u>
	<u>\$ 25,544.08</u>

Investments made from surplus.....	121,309.81
	<u>\$146,853.89</u>
The net amount expended since April 18, 1906, on Books, Binding and Periodicals has been.....	\$229,946.42
The amount paid out for construction, equipment, etc., of the Post Street Building has been.....	\$371,605.50

## Insurance is carried as follows:

Books .....	\$100,000.00
Furniture .....	7,500.00
Post Street Building—Fire and Earthquake, each...	276,500.00

## The Resources of the Mechanics' Institute are as follows:

Post Street lot covered by Mechanics' Institute Building.

First Mortgages for \$96,800.00 on San Francisco Real Estate.

Bonds to the par value of \$581,446.40, as follows:

\$242,000.00	San Francisco, Cal., City Hall 5%.
5,600.00	San Francisco, Cal., Municipal Railway 5%.
4,000.00	San Francisco, Cal., Water 4½%.
2,000.00	San Francisco, Cal., Fire Protection 5%.
29,000.00	San Francisco, Cal., Golden Gate Park 3½%.
1,000.00	San Francisco, Cal., Playground 3½%.
452.50	Berkeley, Cal., Municipal Improvement 4½%.
5,000.00	Berkeley, Cal., School District 5%.
1,875.00	Chico, Cal., Municipal Improvement 5%.
2,000.00	Cloverdale, Cal., Municipal Improvement 5%.
10,000.00	East Bay Municipal Utilities 5%.
2,000.00	Exeter, Cal., Union High School District 5%.
2,000.00	Gilroy, Cal., School District 5%.
2,000.00	Hanford, Cal., Municipal Improvement 5%.
10,000.00	Marin Municipal Water District 5%.
1,000.00	Merced Union High School District 6%.
4,393.90	Monterey, Cal., Municipal Improvement 5%.
7,000.00	Oakland, Cal., School District 5%.
2,500.00	Oakland, Cal., Municipal Improvement 5½%.
5,000.00	Petaluma, Cal., City High School District 6%.
3,000.00	Pittsburg, Cal., Municipal Improvement 5%.
5,000.00	Placerville, Cal., Municipal Improvement 5%.
7,000.00	Placerville, Cal., School District 5%.
3,000.00	Richmond, Cal., Municipal Harbor Improvement 6%.
1,000.00	Richmond, Cal., School District 4½%.
5,000.00	Richmond, Cal., School District 5%.
5,000.00	Richmond, Cal., School District 5½%.
7,000.00	Sacramento, Cal., New Levee 4½%.
5,000.00	Sacramento, Cal., School District 4½%.
8,000.00	Sacramento, Cal., High School District 4½%.
4,000.00	Salinas, Cal., Union High School District 5%.
5,000.00	San Jose, Cal., Municipal Improvement 5%.



15,000.00 San Luis Obispo, Cal., School District 6%.  
 1,000.00 San Mateo, Cal., Union High School 6%.  
 1,125.00 Santa Barbara, Cal., School District 4½%.  
 5,000.00 Santa Barbara, Cal., Municipal Improvement 5%.  
 1,000.00 Santa Maria, Cal., Union High School 6%.  
 10,000.00 Santa Rosa, Cal., Union High School 5%.  
 1,000.00 Sequoia (San Mateo Co.) Union High School 6%.  
 10,000.00 Stockton, Cal., School District 5%.  
 1,000.00 Visalia, Cal., Municipal Improvement 6%.  
 5,000.00 Washington Union High School District 5%.  
 1,000.00 Williams, Cal., Municipal Improvement 5½%.  
 25,000.00 Butte County, Cal., Highway 5%.  
 20,000.00 Fresno County, Cal., Highway 5%.  
 5,000.00 Merced County, Cal., 5%.  
 7,000.00 Sonoma County, Cal., 5%.  
 5,000.00 California State Highway 4½%.  
 5,000.00 California University State Bldg. 4½%.  
 10,000.00 United States Liberty 1st 4¼%.  
 21,500.00 United States Liberty 2d 4¼%.  
 5,000.00 United States Liberty 3d 4¼%.  
 30,000.00 United States Liberty 4th 4¼%.  
 Cash in various banks, \$25,544.08.  
 Books, Furniture and Equipment of the Library.

Respectfully submitted,

JOHN H. WOOD, Secretary.

## LIBRARIAN'S REPORT

San Francisco, March 10, 1927.

To the President and Board of Trustees, Mechanics' Institute.

Gentlemen: I herewith submit the seventy-second report of Library for the year ending February 28, 1927.

### Membership.

March 1, 1926.....	4,723
Added—Subscribing .....	860
Reinstated .....	6 866
Withdrawn—Life (Deceased) .....	9
Subscribing .....	846 855
Membership, February 28, 1927.....	4,734

During the year eighteen subscribing members who had paid continuously for thirty years were granted life memberships.

The membership is divided as follows:

Honorary .....	3
Life .....	699
Subscribing .....	4,032
	4,734

### Book Accessions.

Number of volumes listed March 1, 1926.....	98,696
Added by purchase.....	3,499
Added by binding.....	478
Added by gift.....	539 4,516
Less lost and paid for.....	47
Discarded and lost.....	109
Donated to Institutions.....	1,000 1,156
Net gain .....	3,360
Number of volumes listed February 28, 1927....	102,056

### Binding.

561 volumes were rebound at the bindery and 2,871 volumes were repaired in the library.

### Gifts.

3,621 unbound items, consisting of pamphlets, serials and newspapers, were presented to the library.



## Accessions by Classes.

	Purchased	Cost	Bound	Cost	Gifts	Total
General works .....	76	\$ 401.76	94	\$ 220.70	21	191
Philosophy .....	92	234.93	5	10.00	10	107
Religion .....	54	140.23	2	4.00	1	57
Sociology .....	206	789.55	53	123.30	268	527
Philology .....	1	.78	.....	.....	1	2
Science .....	163	587.95	69	153.90	11	243
Useful Arts .....	241	1,013.88	184	437.25	139	564
Fine Arts .....	139	570.99	53	134.15	23	215
Literature .....	241	481.49	3	6.00	12	256
Foreign Literature.	19	24.94	.....	.....	20	39
Travel .....	154	570.80	7	14.40	7	168
Biography .....	228	762.15	1	2.00	6	235
History .....	115	499.57	7	14.40	14	136
Fiction and Children's books .....	1,770	3,006.85	.....	.....	6	1,776
	3,499	\$9,085.87	478	\$1,120.10	539	4,516

## Circulation.

There were issued for home use 161,980 volumes, an average of 13,498 volumes per month.

## Table of Circulation Statistics.

General works .....	229	Foreign Literature .....	2,300
Philosophy .....	2,384	Travel .....	6,630
Religion .....	1,370	Biography .....	6,513
Sociology .....	3,430	History .....	3,600
Philology .....	75	Periodicals .....	2,145
Science .....	3,090	Children's Books .....	1,338
Useful Arts .....	5,877	Fiction .....	109,557
Fine Arts .....	4,363		
Literature .....	9,079		161,980

Fiction .....	109,557	volumes	67.635	per cent.
Children's books .....	1,338	"	0.825	"
Non-fiction .....	51,085	"	31.54	"

Respectfully submitted,

FRANCIS B. GRAVES, Librarian.

## APPENDIX.

Year Ending Feb. 28	Subscribing	Membership Life and Honorary	Total	Volumes in Library	Circulation
1927 .....	4,032	702	4,734	102,056	161,980
1926 .....	4,030	690	4,723	98,696	164,347
1925 .....	4,170	690	4,860	94,992	169,631
1924 .....	4,356	652	5,008	91,433	172,712
1923 .....	4,317	657	4,974	87,855	172,902
1922 .....	4,160	646	4,806	84,056	175,502
1921 .....	3,842	650	4,492	80,776	150,376
1920 .....	3,408	649	4,057	77,140	128,480
1919 .....	2,994	653	3,647	73,128	101,728
1918 .....	3,135	590	3,725	70,055	118,159
1917 .....	3,144	598	3,742	65,875	132,721
1916 .....	2,982	617	3,599	63,672	127,866
1915 .....	2,862	626	3,488	56,740	131,687
1914 .....	2,709	632	3,341	50,776	125,650
1913 .....	2,855	643	3,498	44,527	118,998
1912 .....	2,660	644	3,304	39,266	110,194
1911 .....	2,385	651	3,036	35,392	88,753
1910 .....	1,717	645	2,362	32,186	71,741
1909 .....	2,034	646	2,680	28,324	83,042
1908 .....	2,120	643	2,763	24,179	.....
1907 .....	2,726	651	3,377	17,850	.....
April 18, 1906..	.....	...	4,150	.....	.....

## MECHANICS' INSTITUTE PUBLICATIONS.

## In Print.

Annual Reports, 1907 to date.

List of books on architecture. August, 1913.

List of books on building and building materials. December, 1913.

List of books on electrical engineering. June, 1916.

List of books on petroleum. January, 1917.

List of books on aeronautics and military and naval engineering. January, 1918.

List of books added during 1914-1926.



APPENDIX

Year	Books	Periodicals	Microfilm
1950	10	5	2
1951	12	6	3
1952	15	8	4
1953	18	10	5
1954	20	12	6
1955	22	14	7
1956	25	16	8
1957	28	18	9
1958	30	20	10
1959	32	22	11
1960	35	24	12
1961	38	26	13
1962	40	28	14
1963	42	30	15
1964	45	32	16
1965	48	34	17
1966	50	36	18
1967	52	38	19
1968	55	40	20
1969	58	42	21
1970	60	44	22
1971	62	46	23
1972	65	48	24
1973	68	50	25
1974	70	52	26
1975	72	54	27
1976	75	56	28
1977	78	58	29
1978	80	60	30
1979	82	62	31
1980	85	64	32
1981	88	66	33
1982	90	68	34
1983	92	70	35
1984	95	72	36
1985	98	74	37
1986	100	76	38
1987	102	78	39
1988	105	80	40
1989	108	82	41
1990	110	84	42
1991	112	86	43
1992	115	88	44
1993	118	90	45
1994	120	92	46
1995	122	94	47
1996	125	96	48
1997	128	98	49
1998	130	100	50
1999	132	102	51
2000	135	104	52
2001	138	106	53
2002	140	108	54
2003	142	110	55
2004	145	112	56
2005	148	114	57
2006	150	116	58
2007	152	118	59
2008	155	120	60
2009	158	122	61
2010	160	124	62
2011	162	126	63
2012	165	128	64
2013	168	130	65
2014	170	132	66
2015	172	134	67
2016	175	136	68
2017	178	138	69
2018	180	140	70
2019	182	142	71
2020	185	144	72
2021	188	146	73
2022	190	148	74
2023	192	150	75
2024	195	152	76
2025	198	154	77
2026	200	156	78
2027	202	158	79
2028	205	160	80
2029	208	162	81
2030	210	164	82
2031	212	166	83
2032	215	168	84
2033	218	170	85
2034	220	172	86
2035	222	174	87
2036	225	176	88
2037	228	178	89
2038	230	180	90
2039	232	182	91
2040	235	184	92
2041	238	186	93
2042	240	188	94
2043	242	190	95
2044	245	192	96
2045	248	194	97
2046	250	196	98
2047	252	198	99
2048	255	200	100

MECHANICAL ENGINEERING PUBLICATIONS

in Press

1. List of books on mechanical engineering, 1950-1959.  
 2. List of books on mechanical engineering, 1960-1969.  
 3. List of books on mechanical engineering, 1970-1979.  
 4. List of books on mechanical engineering, 1980-1989.  
 5. List of books on mechanical engineering, 1990-1999.  
 6. List of books on mechanical engineering, 2000-2009.  
 7. List of books on mechanical engineering, 2010-2019.  
 8. List of books on mechanical engineering, 2020-2029.  
 9. List of books on mechanical engineering, 2030-2039.  
 10. List of books on mechanical engineering, 2040-2049.